



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/529,202	03/25/2005	Hiroshi Kage	266814US2PCT	8938
22850	7590	12/19/2007	EXAMINER	
OBLON, SPIVAK, MCCLELLAND MAIER & NEUSTADT, P.C. 1940 DUKE STREET ALEXANDRIA, VA 22314			TORRES, JOSE	
			ART UNIT	PAPER NUMBER
			2624	
			NOTIFICATION DATE	DELIVERY MODE
			12/19/2007	ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

patentdocket@oblon.com
oblonpat@oblon.com
jgardner@oblon.com

Office Action Summary	Application No. 10/529,202	Applicant(s) KAGE ET AL.	
	Examiner José M. Torres	Art Unit 2624	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-6 is/are pending in the application.
4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 2 is/are allowed.
- 6) ☒ Claim(s) 1 and 3-6 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 25 March 2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|--|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date <u>03/25/2005</u> . | 6) <input type="checkbox"/> Other: ____ |

DETAILED ACTION

Claim Objections

1. Claims 1-6 are objected to because of the following informalities:
 - The limitation "the second frame" recited in claims 1-4 should be "the second image" in order to be consistent with the terminology along the claims.

Appropriate correction is required.

Claim Rejections - 35 USC § 112

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.
3. Claims 1-6 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 1 recites the limitation "the calculated values" in lines 10-11. It is indefinite because it can refer back to the calculated motion vector or the calculated image correlativity. However, it appears to be "the calculated image correlativity" and has been treated as such. Affirmation of this is required by the appropriate amendment.

Art Unit: 2624

Claim 4 recites the limitation "the calculated values" in line 19. It is indefinite because it can refer back to the calculated motion vectors, the calculated pivoting and zooming components, the calculated compensated motion vector, and the calculated image correlativity. However, it appears to be "the calculated image correlativity" and has been treated as such. Affirmation of this is required by the appropriate amendment.

Appropriate correction is required.

Claim Rejections - 35 USC § 101

4. 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

5. Claims 5 and 6 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter. The claim limitation "A recording medium" is intended to cover any type of recording medium, such as non computer-readable medium. On the other hand a claimed computer-readable medium storing a computer program is a computer element which defines structural and functional interrelationships between the computer program and the rest of the computer which permit the computer program's functionality to be realized, and is thus statutory.

Appropriate correction is required.

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claims 1, 3, and 5 are rejected under 35 U.S.C. 103(a) as being unpatentable over Takahashi (U.S. Pat. No. 7,218,675) in view of Nagasaki et al. (U.S. Pat. No. 5,416,557) and Hwang (U.S. Pat. No. 6,122,004).

As to claims 1, as understood, 3, and 5, Takahashi teaches an image processor ("Image Signal Processing Apparatus", Abstract) comprising: an image input unit (FIG. 1, "Imaging Optical System 1 and Solid-State Image Pickup Device 2") for receiving two-dimensional images (Col. 2 lines 41-48); a motion calculator (FIG. 1, "Shaking Correction and Moving Vector Detector Circuit 5") for selecting a motion detecting area (FIG. 2(a), "Effective Picture Frame having a size of $h \times v$ ") for each of two images received by the image input unit, and for calculating a motion vector ("Moving Vector v ") between the two images based on projective data that is acquired by computing in a predetermined direction pixel values in the motion detecting areas (As shown in FIG. 2(b) the motion vector is calculated in the direction of the unintended hand movement, and it is inherent that the images comprises pixel values, see Col. 3 lines 17-45); a displacement calculator (FIG. 1, "Image Compression Circuit 7") for calculating image correlativity ("Correlation Processing") between the two images in the direction that the

Art Unit: 2624

motion vector calculated by the motion calculator designates (Col. 3 line 50 through Col. 4 line 3).

However, Takahashi does not explicitly disclose the displacement calculator calculating the amount of pixel displacement between the two images based on the image correlativity and an image output unit for cutting away an area from a camera-shake compensation area designated in the second image, the area being produced by displacing an image output area in the camera-shake compensation area, by the pixel-displacement amount calculated by the displacement calculator, and for outputting the area as an image for the image output area of the second image.

Nagasaki et al. teaches calculating the amount of pixel displacement ("x and y displacements") between the two images based on the image correlativity (FIG. 2, "Two-Dimensional Correlation Circuit **52**", Col. 4 line 59 through Col. 5 line 19 and lines 31-51).

Hwang teaches an image output unit (FIG. 3, "Image Shifting Means **63**") for cutting away an area ("remaining portion") from a camera-shake compensation area ("shifted-portion") designated in the second image, the area being produced by displacing an image output area in the camera-shake compensation area, by the pixel-displacement amount ("user's hand-trembling") calculated by the displacement calculator (FIG. 6, "Motion Detector **62**"), and for outputting the area as an image for the image output area of the second image (Col. 3 line 56 through Col. 4 line 4, lines 14-28 and lines 44-65).

Therefore, in view of Nagasaki et al. and Hwang, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Takahashi by incorporating the two-dimensional correlation circuit to calculate the amount of pixel displacement based on the image correlativity and the image shifting means to cut away an area corresponding to the displacement amount and outputting a shifted image in order to prevent the adverse influence of unintentional hand movement without the use of a tripod or an auxiliary light source (Nagasaki et al. Col. 1 lines 23-49) and to compensate for the serious disadvantage of the user's hand trembling (Hwang Col. 1 lines 13-29 and Col. 2 lines 9-33).

Allowable Subject Matter

8. Claim 2 is allowed.

The following is a statement of reasons for the indication of allowable subject matter: the closest prior art made of record fails to teach or suggest a conversion/compensation unit/step for calculating pivoting and zooming components by means of the plurality of motion vectors calculated by the motion calculator, and for applying pivoting and zooming conversion to the second image, based on the pivoting and zooming components, and for acquiring a compensated motion vector by subtracting the pivoting and zooming components from the plurality of motion vectors.

Claims 4 and 6 would be allowable for the same reasons with respect to claim 2 if rewritten or amended to overcome the rejection(s) under 35 U.S.C. 112, 2nd paragraph, and 35 U.S.C. § 101 set forth in this Office action.

Conclusion

9. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Yoo et al. disclose an Image Shake Compensation Circuit for a Digital Video Signal, Sekine et al. disclose an Image Shake-Correcting System With Selective Image-Shake Correction, and Nishida disclose an Image Blur Correcting Apparatus.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to José M. Torres whose telephone number is 571-270-1356. The examiner can normally be reached on Monday thru Friday: 8:00am - 4:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jingge Wu can be reached on 571-272-7429. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Application/Control Number: 10/529,202
Art Unit: 2624

Page 8

JMT
12/12/2007



JINGGE WU
SUPERVISORY PATENT EXAMINER